REMARKS

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority, and for indicating that the certified copy of the priority document, French Patent Application No. 9809381 dated July 22, 1998, has been made of record in the file.

Applicant thanks the Examiner for initialing the references listed on the PTO-1449 form submitted with the Information Disclosure Statement filed on March 21, 2000, thereby confirming that the listed references have been considered.

The Examiner objects to the disclosure as lacking appropriate section headings. Applicant filed a Preliminary Amendment on March 21, 2000 to amend the disclosure to include section headings. Applicant has included a copy of the Preliminary Amendment and a copy of the stamped filing receipt. Applicant requests that the Examiner withdraw the objection to the disclosure.

The Examiner objects to Figure 1 of the drawings as lacking a "Prior Art" legend. The Examiner further objects to the drawings as lacking identifying legends. A Request for Approval of Proposed Drawing Corrections is being concurrently filed with this Amendment.

Applicant herein editorially amends claims 1-3 to remove reference callouts and to remove awkward language. The amendments to claims 1-3 were made merely to more accurately claim the present invention and do not narrow the literal scope of the claims as originally filed. The amendments to claims 1-3 were not made for reasons related to patentability, as will be discussed below in detail.

Applicant herein adds new claims 4-14. Support for new claims 4-14 can be found, for example, at page 8 of the specification, as well as in the originally filed claims. Entry and consideration of the new claims is respectfully requested.

Claims 1-14 are all the claims pending in the application.

1. Claims 1-3 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant has amended claims 1-3 to remove the antecedent basis errors. Applicant believes that the amendments to claims 1-3 do not narrow the literal scope of the claims as originally presented. Applicant requests that the Examiner withdraw the § 112, second paragraph rejection of claims 1-3.

2. Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kastner (U.S. Patent No. 6,311,101). Applicant traverses the rejection of claims 1-3 at least for the reasons set forth below.

Applicant is concurrently filing a certified translation of French Patent Application No. 9809381 dated July 22, 1998, with this Amendment. Applicant is entitled to rely on the July 22, 1998 filing date of the French application for priority date purposes. For priority purposes, Kastner has a § 102 date of November 9, 1998. Since the present application has an effective filing date of July 22, 1998, Kastner is not available as prior art. Applicants request that the Examiner withdraw the § 102 rejection of claims 1-3 over Kastner.

3. Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Royal et al. (U.S. Patent No. 6,360,137). Applicant traverses the rejection of claims 1-3, and insofar as the rejection applies to new claims 4-14, at least for the reasons set forth below.

To support a conclusion that a claimed invention lacks novelty under 35 U.S.C. § 102, a single source must teach all of the elements of a claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986). A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). A single source must disclose all of the claimed elements arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. Thus, the cited reference must clearly and unequivocally disclose every element and limitation of the claimed invention.

The present invention is of generic application and can be used for remote controlling steel mills as well as power plants or any other industrial installation that requires the combination of a real-time local control system with the potential of outside access via the Internet. Real-time control systems must comply with time critical constraints, which are often very strict. For example, one of skill in the art plainly understands that the rollers of a steel rolling mill must be strictly synchronized in order to avoid catastrophic dysfunction. In another example, the regulation processes in power systems (electrical networks or power stations) must be controlled with a strict time resolution in the order of magnitude of a few milliseconds. This is what is called "hard" real-time or time critical real-time processes that require deterministic local communication networks to

ensure that data is transferred on time over the network and that the transferred data is valid when made available for use.

Regarding claim 1, Royal et al. fails to teach or suggest a communications architecture that uses time slots left available by the deterministic traffic of the industrial local area network to transfer data without disturbing priority message traffic related to real time process control. Applicant believes that, even if the expression "real time" is used in Royal et al., it cannot refer to "hard" real-time or time critical real-time process control. At best, as far as fuel dispensers are concerned, only the expression "soft real-time" could be relevant. Furthermore, it is well known that the Internet, which provides the backbone for the disclosure of Royal et al., does not provide hard real-time and deterministic communications. This is a well-known significant handicap against the use in industry for real-time process control.

Instead, Royal et al. disclose, *inter alia*, how to use Internet technology and protocols, such HTLM or HTTP, or alternately other formats such as JAVA applets for retrieving information from dispensers (or downloading data to them) to (or from) local or remote browsers or servers. In addition, Royal et al. disclose how the Internet can be used for achieving this interactivity between the dispensers to be controlled and the local or remote browsers or servers. The disclosure of Royal et al. states that "the basic architecture is a local network connecting the dispensers 12 and the local station servers 18 wherein the local station server 18 may interact with the Internet or similar network 30.... Interactivity between these entities is accomplished in a manner similar to the way interactivity is accomplished on the Internet and preferably, identical to the manner in which interactivity is accomplished on the Internet." Clearly, Royal et al. only contemplate the use of

Internet technology and protocols, or, at the very most technologies similar to Internet, for accomplishing the communications between the fuel dispensers and the station server(s).

In contrast to the disclosure of Royal et al., the present invention combines the deterministic traffic of any industrial local area network with the unpredictable traffic of Internet, without disturbing the priority interchange related to the real time control of the industrial process being controlled/monitored by the computer system coupled to the industrial local area network. This is accomplished by the use of available time slots provided over the local area network for conveying, without disturbing the deterministic interchange mode of priority message traffic, the messages that will be transferred from or to the Internet network. In other words, time critical protocols and Internet protocols can exist on the same medium, e.g., the industrial local area network. In the passages cited by the Examiner, there is no disclosure of mixing deterministic and non-deterministic communications together, thereby providing control and communications within the same medium. In sum, Applicant submits that Royal et al. fail to teach or suggest all the recitations of claim 1 as required by *Hybritech* and *Richardson*.

Thus, Applicant submits that claim 1 is not anticipated by Royal et al., and further submits that claims 2 and 4-10 are allowable as well, at least by virtue of their dependency from claim 1.

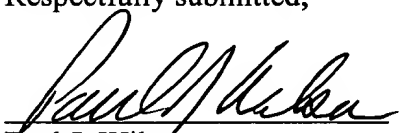
Independent claim 3 has similar recitations as claim 1, namely, the use of time slots left available by the deterministic traffic of the industrial local area network to transfer data without disturbing priority message traffic related to real time process control. Applicant submits that claim 3 is allowable at least for the same reasons as claim 1, and, for the sake of brevity, hereby incorporates the arguments of claim 1 as being applicable to claim 3 with respect to Royal et al.

being an non-anticipatory reference. Applicant further submits that claims 10-14 are allowable as well, at least by virtue of their dependency from claim 3.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Paul J. Wilson
Registration No. 45,879

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373
PATENT TRADEMARK OFFICE

Date: March 10, 2003

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1.[/] (*Amended*) A time-shared communications architecture for communicating digitized information for an industrial process control system, the [which] architecture comprising [is organized around] at least one industrial local area network [(6)] conveying deterministic traffic between a plurality of [various] programmed operating units [(11, 10, 8, 4'),] which [units] process and store information [which can be accessed by at least one other programmed operating unit (11, 10) via said architecture], the [said] architecture operative to be accessed by a customer computer equipped with a predetermined protocol stack, wherein at least one of the plurality of [being characterized in that it includes various] programmed operating units comprises a server [(10, 8, 4') in particular comprising units situated at an intermediate level (8) or at a process interface level or at a site monitoring/control device level (4'), which units individually include servers (9) of the HTTP type so as to be] capable of sending optionally interactive computer documents in response to requests received from another programmed operating unit or from the customer computer, said architecture using [(11) of the system or from a computer, in particular external to the system, equipped with an HTTP/TCP/IP protocol stack and acting as a customer, in the context of messaging traffic making use of the transmission possibilities constituted by the] time slots left available by the deterministic traffic of the industrial local area network [network(s) (6, 6') of the system,] without

disturbing [the] priority message traffic [interchange] related to [the] real time process control [of the process].

2.[/] (*Amended*) The time-shared communications [An] architecture according to claim 1, further comprising a plurality of [for an industrial process control system, in which] programmed site units which comprise at least one cluster, wherein the at least one cluster comprises a cluster [(18, 18', 18", 18"', 18"")] are organized in one or more clusters around at least one industrial] local area network [(19)] of a [the site] bus type [which is] specific to the at least one [a] cluster and which connects the at least one [units of the] cluster to at least one shared programmed unit [(17),] [optionally] serving as a gateway or as a router to said [another] industrial local area network [(20) serving at least one other programmed unit (14, 15) of a higher level of the architecture, in particular a supervision unit and/or a unit serving as a gateway to an external communications network (0), so that the HTTP server of a cluster unit equipped with such a server responds with an optionally interactive computer document if a request is addressed to it, via at least one of the networks, by another unit or by a computer, in particular external to the system, equipped with an HTTP/TCP/IP protocol stack and acting as a customer, when the request concerns inserting or extracting parameters and/or variables stored at the unit that includes said server].

3.[/] (*Amended*) A method of communicating information for an industrial process control system, wherein [in which method] digitized information required [that is necessary] to control an [the] industrial process is interchanged in real time [and in a manner internal to the system] over at least one site network[, in a deterministic mode,] between at least one site device [such as a sensor or an actuator,] and a [at least one intermediate-level] programmed operating unit [or at least one higher-level programmed operating unit], said method using [being characterized by the fact that, in order to enable a user external to the system to access information stored in said site device or in said programmed operating units via an Internet or Intranet type network connected to one of the units, interchange is performed using the HTTP/TCP/IP protocol between the device in which said information is stored, which device may be a site device or an operating unit, and the intermediate-level or higher-level operating unit to which the Intranet or Internet network is connected, for] available time slots provided over the site network by the deterministic interchange mode without disturbing priority message traffic related to said industrial process.

Claims 4-14 are added as new claims.